REMARKS--General

The specification has been reproduced in its entirety (minus the claims) even though some paragraphs do not contain any amendments.

The changes do not contain any new matter.

The claims have been amended so that they overcome Examiner's objections and rejections and include all the previously allowable subject matter with the objections removed so that the claims are fully compliant.

Please note that for the labyrinth type means (claim 8) had been cancelled. Applicant did not show them in the drawings and neither did he describe them in the specification.

Concerning the shutter assembly is designed to be mounted either horizontally as shown on drawings or vertically as not originally show.

As required, Applicant made 3 drawings showing the vertical mounting of the vanes. The new drawings are enclosed and do not contain any new matter or at least from what can be normally inferred from the description and previously submitted drawings.

Concerning the extension spring, please note that it is an essential element because it makes it possible for the fan to open the shutter with vanes mounted horizontally or vertically when the propeller runs at low speed.

The fan of this invention is mainly used for poultry house buildings applications and, as a result of the dust problems, a much larger number of fans are typically used in said buildings, usually 8 to 12 fans with 1 Hp motor and a 48" propeller.

It should not be very hard to imagine that the existing gravity shutter assembly, having a myriad of vanes mounted horizontally, constitutes a significant obstruction to airflow. Said gravity shutters cannot open to a position where the vanes are perfectly aligned to the airflow. Gravity works against them resulting in the constant slight downward angle. Prior art fans with partially open shutters have to be cleaned regularly and frequently, other vice detrimental effects occurs to the environment of said poultry houses buildings. Since prior art shutters are not cleaned regularly as they should, maintenance cost and waist of energy is skyrocketing and the fans move significant less air than the fan of the present invention.

It is about time to change them with a fan with centrifugal device like the one of the present invention.

Please find attached herewith copy of the Publication Volume 5 Number 3 dated March, 1993 by the **College of Agricultural and Environment Sciences** /Athens, Georgia.

Poultry Housing Tips.

The reading of said publication inspired the Applicant of the present application the vertical shutters of the present invention, in a second moment the Applicant thought to have the shutter assembly removable and mounted horizontally or vertically.

Concerning claims 4 and 10, Applicant would like to point out that Mancinelli and Gigola did not think about vertical shutters and in any case they are not the inventors of the US patents.

As stated in the application for US Patent 6, 276, 895, this Applicant had been from 1986 to 1991 responsible of the Engineering department of the company EUROEMME SPA Borgomaro Italy, owned by Mancinelli.

It appears according Mr. Franco Franchi that the patent to Mancinelli 4,217,816 was made simultaneously by Mr Durando deceased, and Mr. Franco Franchi who now is living in Baton Rouge Louisiana. Please see ANNEX A. The patent to Gigola US Patent 4, 195, 928 was mad by me 15 years ago. This Applicant invented the centrifugal actuator to Gigola during the first week of September 1990 but the patent was assigned to Gigola.

According to law, only the true inventor may be named as inventor on a patent application or a patent and **if a person that is not the true inventor is named as inventor, the patent, if granted, may be held to be invalid, therefore the patents to Mancinelli and Gigola are not valid.**

DRAWINGS:

A new set of drawings is enclosed to overcome Examiner's objections.

As requested, the Applicant eliminated drawing FIG.3 and added three "New Sheets": FIG.1V, 3A, 3B showing a fan with a self cleaning and self-opening shutter assembly 4 with vertical pivoted shutters or vanes mounted across the square intake opening of the fan square housing intake of said housing mounted in a square opening of a building wall.

As requested for the centrifugal actuator the Applicant added two "New Sheets" Fig.5B and Fig.6B showing the centrifugal actuator 17" comprising a rotatably connection between the axially sliding reciprocating actuator 24' and the central operative vane 5c'.

Requests for Constructive Assistance

The undersigned has made a diligent effort to amend the claims of this application so that they define unobvious structure because it produces new and unexpected results. If for any reasons the claims of this application are not believed to be in full condition for allowance, applicant respectfully requests the constructive assistance and suggestions of the Examiner in drafting one or more claims pursuant to MPEP 707.07(j) or in making constructive suggestions pursuant to MPEP 706.03(d) in order that this application can be placed in allowable condition as soon as possible and without the need for further proceedings.

Please if you need do not hesitate to call me at any time for any additional information .

Very Respectfully,

Angelo Milana P.Eng.

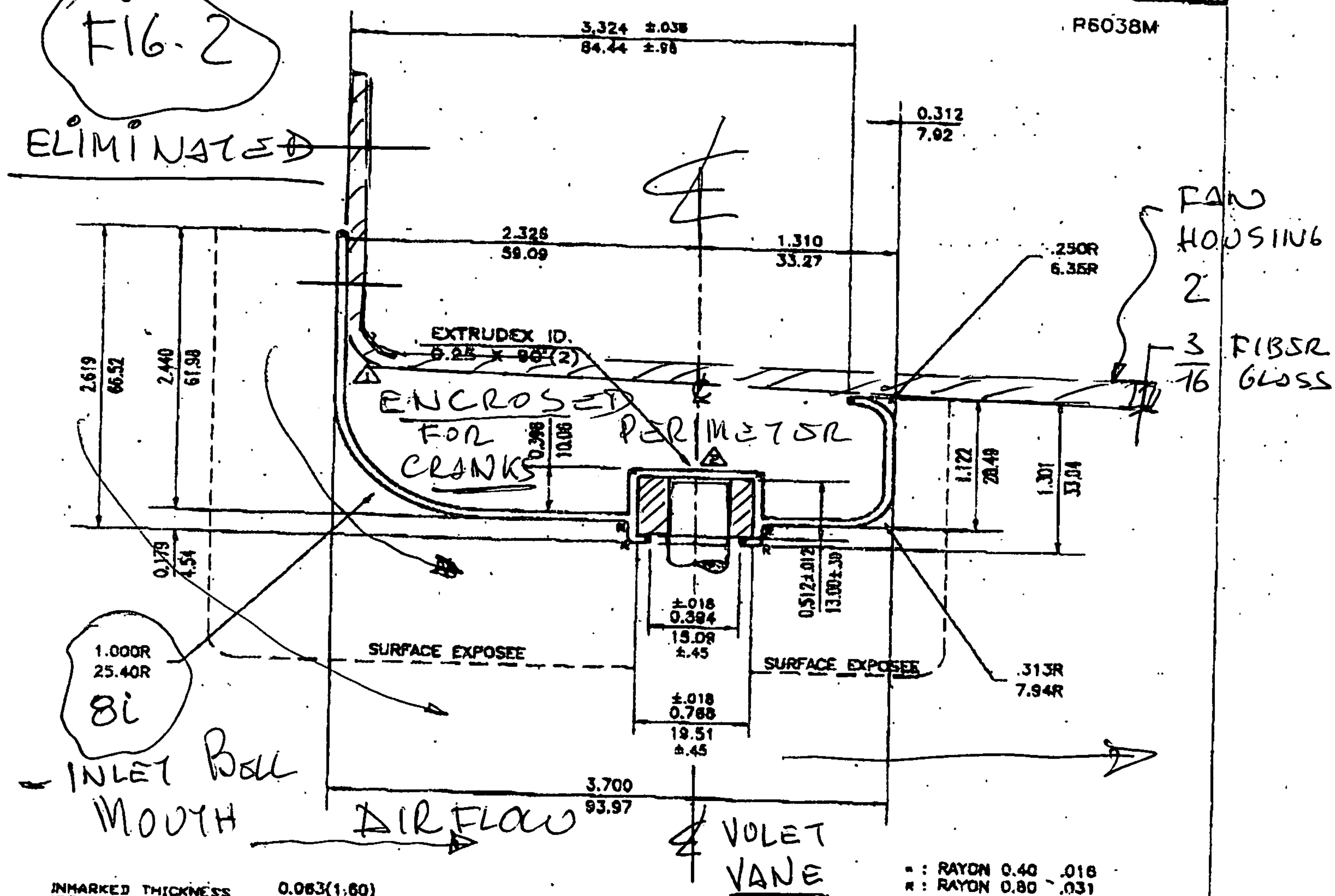
Angelo Milana P.E. Mechanical Engineer
TEL/FAX: 450 668 0116
1700 BOUL LEVESQUE EAST APT. 3
LAVAL, QC H7G- 4S1 CANADA

A. MILANA
26414

28 Sept. 2006

DIE NO. S-14095

FIG. 2



UNMARKED THICKNESS 0.063(1.60)
BREAK CORNERS .010" (0.25mm), OUTSIDE CORNERS .015" (0.38mm)
STANDARD TOLERANCES TO APPLY UNLESS OTHERWISE STATED.

DESCRIPTION CADRE A VOLET 54"

DWN. BY	Rich.	DATE	10/31/02	DIE SIZE	9 X 5 1/2	
SCALE	1=1	ALLOY	6063-T5	DIE PLATE	9 X 2	
EST. AREA	0.509	IN²	328.12 mm²	BACKER	S-14095	
EST. WT.	0.585	LBS/FT	0.888 KG/M	BOLSTER	STD-119	
EST.PER.	16.177	IN	410.91 mm	NO. HOLES	1	
FACTOR	27		484	BILLET		

DATE	REVISION	BY
07-01-03	⚠2 CHANGER ID D'EMPLACEMENT	RICH.
07-01-03	⚠1 ENLEVER MUR DE 3/8" DE LONG	RICH.

DIE NO. S-14095

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CE DESSIN N'EST PAS NECESSAIREMENT UNE COPIE DE L'ORIGINAL FOURNI PAR LE CLIENT. VEUILLEZ VERIFIER ATTENTIVEMENT & APPROUVER TOUTES DIMENSIONS & TOLERANCES. [illegible] CE DESSIN, LE CLIENT ACCEPTE TOUTES RESPONSABILITE LEGALE EN FAISANT FABRIQUER CE PROFILE ET DEGAGE LE MANUFACTURIER DE TOUTE RECLAMATION SUR DROITS DE BREVET OU AUTRE POUVANT SURVENIR SUITE A LA FABRICATION DE CE PROFILE. EXTRUDEX ACCORDE A SES CLIENTS UN PRIVILEGE D'UTILISATION AUSSI LONGTEMPS QUE LA FILIERE DEMEURE ACTIVE A L'INTERIEUR D'UNE PERIODE DE 18 MOIS CONSECUTIFS.

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WATTS: 1-800-704-4244

CLIENT: ________ PAR: ________
FRAIS DE SERVICE: 260 $ DATE: ________

CES FRAIS DE SERVICE INCLUENT DES ECHANTILLONS STANDARDS, SOIT UNE PIECE DE 1 METRE EN ALLIAGE 6063-T5 NATUREL. SI DES ECHANTILLONS [illegible]

NOMBRE DE PIECES: ________ LONGUEUR: ________

CUSTOMER: ________ BY: ________
SERVICES CHARGES: ________ DATE: ________

THE SERVICES CHARGES INCLUDES A PIECE OF 1 METER IN LENGTH STANDARD MILL FINISH IN 6063-T5. IF YOU NEED ADDITIONAL SAMPLES, WE WOULD REQUIRE THE FOLLOWING INFORMATIONS:

NUMBER OF PIECES: ________ LENGTH: ________

ANNEXE A 2 pages

Translation from Italian to English of a letter of protest against EUROEMME sent by:
Dr. Eng. Angelo Milana
IMPERIA, January 14, 1991
EUROEMME SPA
BORGOMARO (Imperia)

OIPE
OCT 04 2005
IAP75
PATENT & TRADEMARK OFFICE

Attn. Mr. MANCINELLI VITTORIO

I have contacted experts in the sector of patents therefore I inform you that concerning the new patent application for the centrifugal system. I intend to protect all my rights which are normally due to the inventor.
The novel system made up of three balanced masses, without guiding rod, without bushing, was thought solely by myself and realised on my own personal direction and supervision by Mr. Tommaso Di Gaudio and Mr. Franco Franchi.
The novel mechanism was put in operation and tested in the shop by Mr. Pietro Bunengo under the presence of myself, Dr. Merano and your. The results were excellent. The novel centrifugal system represents a new concept and, as you admitted, this implies a substantial improvement of the mechanism which had been in operation heretofore.
In effect, the problem due to the jamming of the guiding rod is totally eliminated whereby, the maintenance work on said rod had been eliminated and of course there is a plus value for the ventilator. The accrued quality of the new mechanism is demonstrated by the need you felt to apply for a Patent of the new system.
The saving in the construction of the ventilator (it is not anymore necessary to manufacture the guiding rod, the bushing, drill the shaft supporting the propeller, it is not necessary the rotating cleaning ring and the rubber seal) .
The reduced machining time for the fan pulley eliminate the need to purchase the new lathe. The noise of the old system had been completely eliminated because the closing of the shutter is gradual. As a result, the functioning of the ventilator is more certain and simpler making the product more competitive. The benefit for your company is about 150 000 000 Lit.
On the filing application for the patent, according the law it must be clearly specified the name of the inventor. What the inventor name on the document? I hope that only my name is indicated on the patent application.
I demand the document of the ACT OF DESIGNATION OF THE INVENTOR ANNEXE E of the filing application that you presented.
It is very important for my career to show in my personal curriculum vitae the paternity of this new patent.
I believe that you must respect the low requirements of the designation of the true inventor, if you have not already done this.
I will expect your reply to this letter.

Sincerely

Dr. Eng. Angelo Milana
V.le V. Veneto, 26
18100 Imperia

ANNEXE A

Translation from Italian to English of a letter of Mr, Franco Franchi
President of FRANCO INTERNATIONAL., INC Baton Rouge Louisiana USA.

Sir,

With regards to what Mr. Angelo Milana has written in the letter of protest against Mr. Mancinelli (EUROEMME) dated January 14 1991, I confirm that all facts are true. After discussion with Mr. Milana in the office of the modification of the masses I went in the shop and built the prototype. A few hours after a ventilator was functioning with the new system and ready to be tested.
During that time I was responsible for the production for the Company Euroemme.

Best regards,

Franco Franchi
1217 Brutus Drive
Baton Rouge, LA 70816

Tel. 225. 275. 4352

Imperia, 14.01.91

Spett.le EUROEMME S.p.A.
BORGOMARO (Imperia)

Raccomandata R.R.

All'attenzione del Sig. Mancinelli Vittorio

In seguito a contatti avuti con esperti del settore brevetti Vi comunico quanto segue:

Per quanto riguarda il nuovo brevetto del sistema di apertura delle serrande a tre masse centrifughe intendo cautelare tutti i diritti normalmente spettanti all'ideatore del meccanismo.

Il nuovo sistema a tre masse bilanciate, senza astina di guida, senza boccola, ideato esclusivamente da me stesso e realizzato di mia iniziativa e sotto le mie personali direttive dal Sig. Tommaso Di Gaudio e dal Sig. Franco Franchi, provato poi in officina dal Vostro operaio Pietro Brunengo presenti, oltre al sottoscritto, il Dott. Merano e Lei stesso con risultati ottimali, rappresenta una ideazione nuova che, come Lei stesso ha convenuto, comporta un notevole miglioramento del meccanismo usato fino ad ora, poichè non si presentano più i problemi dovuti al bloccaggio dell'astina. Si elimina cosi definivamente l'onere della manutenzione con conseguente plusvalore del ventilatore stesso.

La bontà del nuovo meccanismo è dimostrata dall'esigenza che avete sentito decidendo rapidamente di brevettare il nuovo sistema.

Il risparmio nella costruzione del ventilatore (non è più necessario costruire l'astina, la boccola, forare l'asse portante della ventola, utilizzare l'anello pulisci astina ed il parapolvere) unito al risparmio che si consegue nella minore lavorazione necessaria a produrre la puleggia ed al minore utilizzo di macchine utensili, consente di risparmiare nell'acquisto di nuove macchine, esigenza che si sarebbe resa necessaria in caso contrario.

La rumorosità del vecchio sistema è stata completamente eliminata essendo la chiusura della serranda graduale.

Per concludere il funzionamento più sicuro e più semplice del ventilatore rende il prodotto più competitivo.

Il beneficio per la Ditta è valutabile cautelativamente in 150 milioni all'anno.

Nella domanda di brevetto, mi consta, debba essere specificato il nome dell'inventore: chi risulta essere l'autore del brevetto sul vostro documento? spero non risulti un nominativo diverso dal mio. Esigo quindi, da parte Vostra, una risposta documentata attraverso una copia dell' Atto di designazione dell'inventore, (Allegato E. alla domanda di brevetto

da Voi presentata).

Il diritto di esibire nel mio curriculum personale questo mio nuovo brevetto è molto importante ai fini della mia carriera e ritengo che si debba ottemperare a questo obbligo di legge, nel caso non fosse già stato fatto al momento della presentazione della richiesta di brevetto.

In attesa di un Vostro cortese riscontro invio cordiali saluti.

Ing. MILANA ANGELO

Angelo Milana

Prego inviare la risposta al seguente indirizzo:

-MILANA ANGELO,
V.le V.Veneto,26
18100 IMPERIA

euroemme SpA
VENTILAZIONE E RISCALDAMENTO PER SERRE E ALLEVAMENTI
AGRICULTURAL HEATING AND COOLING EQUIPMENT

ANGELO MILANA
MANAGER OF ENGINEERING

Tel. 0183/54.188
Telex 283894 EUROM I
Telefax 0183/54186

18021 BORGOMARO (IM) Italia
Via A. Guglieri, 29

Cooperative Extension Service
College of Agricultural and Environmental Sciences/Athens, Georgia 30602-4356
1785

Poultry Housing Tips

Exhaust Fans with Shutter Opening Devices

Volume 5 Number 3 **March, 1993**

One of the most common complaints about power ventilation is cleaning fan shutters. It is a constant battle. You clean the shutters one day and a few days later they are covered with dust and hanging partly closed again. Studies conducted by The University of Georgia Cooperative Extension Service found that in commercial egg laying houses over a quarter of a pound of dust collect on shutters each day. This means that shutters require practically daily cleaning. In broiler houses shutters don't collect dust quite as quickly. Nevertheless, broiler house fan shutters should be cleaned at least weekly and considering the number of fans on most broiler farms, this can be quite a time consuming chore.

In addition to the time commitment, cleaning fan shutters is a tough task. Cleaning fan shutters is one of the dirtiest jobs on a poultry farm. When there are birds in a house and the fans are running, it's nearly impossible to clean a fan shutter without getting covered with dust. The cleaning process can damage the shutters if special care is not taken, resulting in shutters that won't close completely when the fans shut off. As a result of all this, fan shutters rarely get cleaned as often as they should.

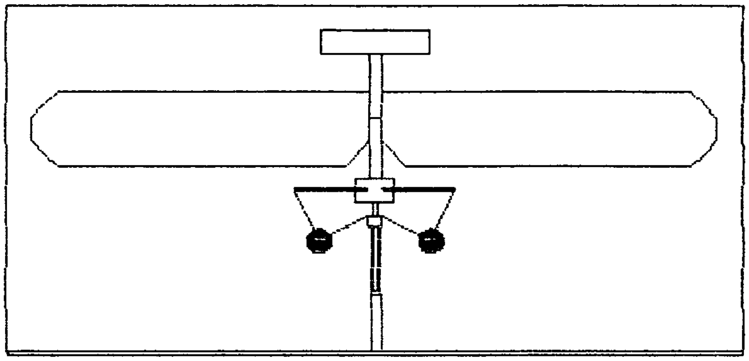
Electricity bills are higher and bird performance is lower because shutters do not get cleaned on a regular basis. A number of studies have shown that dirty shutters reduce the amount of air moved by a fan by 30 percent or more. If each fan moves less air, more fans are necessary to do the job, resulting in higher electricity usage. During the summer months, if all the exhaust fans are moving 30 percent less air than they should, this is the same as turning off 30 percent of the fans. This of course would result in higher house temperatures and increased heat stress problems.

What is the solution to this problem? One possible solution for growers who are building new housing or upgrading their ventilation system(s) is to consider a new type of fan which mechanically opens its own shutters in a unique way. Most shutters are opened by the air exiting the fan blowing the shutter open. Any dust that is in the air quickly accumulates on the shutters, increasing the overall weight of the shutters. The heavier the shutters, the harder it is for the fan to blow air through them, and the less air the fan moves.

This new fan incorporates a set of rotating weights connected to the fan motor shaft. As the motor speeds up, the rotating weights move away from the shaft due to centrifugal force. Through a series of linkages, the movement of the weights forces the shutters wide open. As the fan shuts off, the weights move back toward the shaft and the shutters, assisted by small springs, close.

- Since the shutters open fully, dust does not collect on the shutters as quickly as on conventional shutters. Even when dust does accumulate, it does not affect the opening of the shutter because the weight of the dust is insignificant when compared to the centrifugal force generated by the rotating weights. Since the dust does not affect fan performance, a grower can wait until the end of the growout before having to clean his fans.

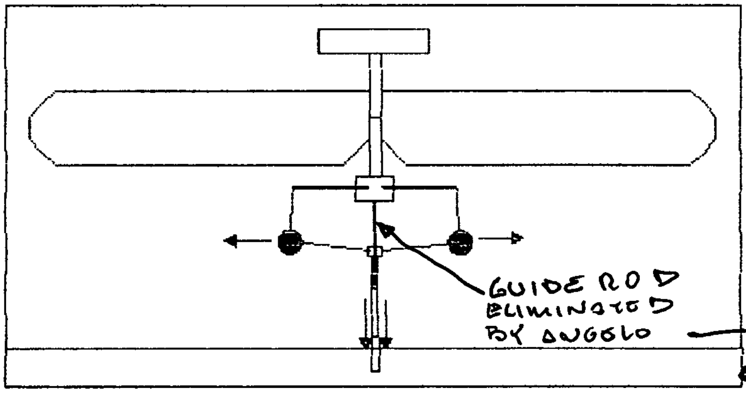
Fan Off



Shutters Closed

EUROEMME –
MUNTERS
DEVICE.
PATENT:
US. 5,288,202

Fan On


GUIDE ROD
ELIMINATED
BY ANGELO

Shutters Open

ON SEPT. 17 - 1990

- ON NOV. 15 EUROEMME STARTED PRODUCTION
- ON DEC. 4 1990 GIGOLA FILED AN APPLICATION

Lab tests conducted by The University of Illinois found the air moving capacity and energy usage of the new fan are comparable to other fans of the same size. But lab tests don't tell the whole story. Measurements taken over the past year by The University of Georgia Extension Engineering Department on a contract broiler farm with tunnel-ventilated houses have found the fan to move 15% or more air than conventional fans with either interior or exterior shutters. The amount of difference in air moving ability was dependent upon the amount of dust on the shutters of the conventional fans. The greater the amount of dust on the shutters, the lower the amount of air fans with conventional shutters moved. Dust accumulation on shutters did not appear to affect the amount of air moved by the new fan. Over the course of the study, no mechanical problems were encountered with any of the seven 48" fans installed on the farm.

With any "new" product there is always the question of reliability. Since the fan does have more moving parts it may require some additional mechanical maintenance, i.e., occasionally replacing linkages and springs. And as with any foreign made product, spare parts availability should be considered. But, a positive aspect of the fan's reliability is that it has been successfully sold worldwide for over 10 years.

New developments in poultry equipment are continuously being made around the world. The exchanging of ideas and equipment has contributed to the tremendous growth of the poultry industry worldwide. A company in one part of the world develops an idea, and another in a different area of the world improves upon it. In the long run everyone benefits.

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Putting Knowledge to Work

The University of Georgia and Ft. Valley State College, the U.S. Department of Agriculture and counties of the state cooperating.

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Agricultural Research Service

TEKTRAN

REDUCTION OF POULTRY VENTILATION FAN OUTPUT DUE TO SHUTTERS

Author(s):

SIMMONS JOHN D
LOTT BERRY D

Interpretive Summary:

Presently, construction of (and conversion to) tunnel-ventilated broiler houses is substantial. Because they prevent backflow through idle fans, shutters have become vital in these houses. However, dust, dirt, and the maximum angle when open have an effect on the air flow rate of the fan to which they are attached. A study was done to determine the flow reduction resulting from shutters on a 91.4 cm (36 in) poultry-house ventilation fan. Results showed that clean shutters alone could reduce airflow by as much as 10.9% and dirt accumulated on a fan and shutter for 42 days reduced fan airflow by 16.3%. After 42 days, dust/dirt accumulation on this fan/shutter was over 453.6 g (1.0 lb). If not cleaned between flocks, the flow rate could be reduced by as much as 23.5% by the end of the second rearing period. The use of a shutter motor to fully open the vanes resulted in an airflow increase of 2.4% as compared to a fan/shutter without one.

Keywords:

chicken diet density body temperature environment acclimation water consumption heat stress broilers feed restriction juvenile conversion abdominal fat leg weakness management house type poultry production control systems food safety

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Email: A03scprlmsu

Approved Date: 1996-06-04

TEKTRAN
United States Department of Agriculture
Agricultural Research Service

Updated: 1998-12-18